

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
UNSTARRED QUESTION No. 3957
TO BE ANSWERED ON 28.03.2022

Air Quality Monitoring Stations

3957. SHRI RAJAN VICHARE:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether the Government has conducted any research on the number of air quality monitoring stations that are ideally required and the total number of existing air quality monitoring stations in the country?
- (b) the number of air quality monitoring stations based in urban, semi-urban and rural areas and the number of air quality monitoring stations that are equipped to measure PM 2.5 pollution?
- (c) the list of air quality monitoring stations in Maharashtra, district-wise and the number of air quality monitoring stations built/commissioned by the Government during the last three years and the current year; and
- (d) if so, the details thereof and if not, the reasons therefor?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ASHWINI KUMAR CHOUBEY)

(a)

The ambient air quality monitoring stations in the country are established according to the population based criteria for siting air quality monitoring stations. The criteria also include available resources and site specific parameters such as size of the area to be covered, variability in pollutants concentration etc. The criteria for designing the ambient air quality monitoring network is given as Annexure-I.

(b)

The ambient air quality is monitored by Central Pollution Control Board (CPCB) along with State Pollution Control Boards (SPCB) and Pollution Control Committees (PCC) at 880 locations covering 378 cities/towns in 28 States and 7 Union Territories across the country by manual monitoring under National Ambient Air Quality Monitoring Programme (NAMP) and at 333 locations covering 172 cities/towns in 23 States and 4 Union Territories across the country by Continuous Ambient Air Quality Monitoring System (CAAQMS).

As far as rural areas is concerned, Air Quality monitoring is carried at 27 locations by manual method, covering 26 villages in Punjab and one in Daman & Diu and Dadra & Nagar Haveli.

Under the manual network 360 stations in 171 cities are equipped to measure PM 2.5 pollution level. All 333 CAAQMS are also equipped to monitor PM 2.5 pollution.

The details of ambient air quality monitoring stations are given as Annexure-II.

(c) and (d)

Details of air quality monitoring stations equipped to measure PM_{2.5} Pollution in Maharashtra is annexed as Annexure-III.

The list of district-wise air quality monitoring stations in Maharashtra State is annexed as Annexure-IV.

The list of air quality monitoring stations built/commissioned by the Government during the last three years and the current year is annexed as Annexure-V.

ANNEXURE-I

ANNEXURE REFERRED TO IN REPLY TO (a) OF THE LOK SABHA UN-STARRED QUESTION NO. 3957 DUE FOR REPLY ON 28.03.2022 REGARDING 'AIR QUALITY MONITORING STATIONS' BY SHRI RAJAN VICHARE, HON'BLE MEMBER OF PARLIAMENT

Criteria for designing the ambient air quality monitoring network

Population (Census 2011)	Minimum No. of manual station under NAMP	Minimum no of proposed CAAQMS	Total
1,00,000- < 5,00,000	1-Background 2-Residential/ Commercial	1-Residential	4
5,00,000- <10,00,000	1-Background 2-Residential/ Commercial	1-Residential 1-Traffic dominant area 1- Commercial	6
10,00,000- <50,00,000	1-Background 2-Residential/ Commercial	2-Residential 1-Traffic dominant area 1- Commercial 1-Industrial area	8
≥50,00,000	1-Background in upwind direction 1-Background in down wind direction 2-Residential/ Commercial	4-Residential 3-Traffic dominant area 3- Commercial 2-Industrial area	16

ANNEXURE-II

ANNEXURE REFERRED TO IN REPLY TO (b) OF THE LOK SABHA UN-STARRED QUESTION NO. 3957 DUE FOR REPLY ON 28.03.2022 REGARDING 'AIR QUALITY MONITORING STATIONS' BY SHRI RAJAN VICHARE, HON'BLE MEMBER OF PARLIAMENT

Ambient air quality stations (manual & real-time stations)

Sl. No.	States & UTs	Number of stations	
		CAAQMS	NAMP
1.	Andaman & Nicobar (UT)	0	2
2.	Andhra Pradesh	6	72
3.	Arunachal Pradesh	1	2
4.	Assam	2	31
5.	Bihar	32	8
6.	Chandigarh (UT)	2	5
7.	Chattisgarh	2	17
8.	Dadara& Nagar Haveli and Daman & Diu (UT)	0	6
9.	Delhi (UT)	40	10
10.	Goa	0	18
11.	Gujarat	15	24
12.	Haryana	30	5
13.	Himachal Pradesh	0	25
14.	Jammu & Kashmir (UT)	1	29
15.	Jharkhand	1	10
16.	Karnataka	31	30
17.	Kerala	9	29
18.	Lakshadweep (UT)	0	1
19.	Madhya Pradesh	16	42
20.	Maharashtra	41	80
21.	Manipur	0	1
22.	Meghalaya	1	10
23.	Mizoram	1	19
24.	Nagaland	1	9
25.	Odisha	2	38
26.	Pondicherry (UT)	1	6
27.	Punjab	8	47
28.	Rajasthan	10	39
29.	Sikkim	0	9
30.	Tamilnadu	11	55
31.	Telangana	6	25
32.	Tripura	1	2
33.	Uttar Pradesh	48	84
34.	Uttarakhand	0	8
35.	West Bengal	14	82
	28 states & 7 UTs	333	880

ANNEXURE-III

ANNEXURE REFERRED TO IN REPLY TO (c) and (d) OF THE LOK SABHA UN-STARRED QUESTION NO. 3957 DUE FOR REPLY ON 28.03.2022 REGARDING 'AIR QUALITY MONITORING STATIONS' BY SHRI RAJAN VICHARE, HON'BLE MEMBER OF PARLIAMENT

DISTRICT WISE AIR QUALITY MONITORING WITH RESPECT TO PM2.5- STATIONS IN THE STATE OF MAHARASHTRA

Sl. No.	Name of City	District	No. of Stations (MANUAL)	Parameter monitored (MANUAL)	TYPE	No of CAAQMS stations (Continuous)	Parameter monitored (Continuous)	TYPE
1	Navi Mumbai	Thane	---	---	---	2	SO2, NO2, CO, O3. NH3, PM10, PM2.5, BTX	Residential & Commercial
2	Nashik	Nashik	---	---	---	1	SO2, NO2, CO, O3. NH3, PM10, PM2.5, BTX	Residential & Commercial
3	Dombivali	Thane	---	---	---	1	SO2, NO2, CO, O3. NH3, PM10, PM2.5, BTX	Residential & Commercial
4	Aurangabad	Aurangabad	---	---	---	1	SO2, NO2, CO, O3. NH3, PM10, PM2.5, BTX	Residential & Commercial
5	Chandrapur	Chandrapur	---	---	---	2	SO2, NO2, CO, O3. NH3, PM10, PM2.5, BTX	Residential & Commercial
6	Nagpur	Nagpur	---	---	---	1	SO2, NO2, CO, O3. NH3, PM10, PM2.5, BTX	Residential & Commercial

7	Pune	Pune	1	SO2, NO2 and PM10, PM2.5	Comm-Resi	1	SO2, NO2, CO, O3. NH3, PM10, PM2.5, BTX	Residential & Commercial
8	Thane	Thane	1	SO2, NO2 and PM10, PM2.5	Comm-Resi			
9	Mumbai	Mumbai	---	---	---	11	SO2, NO2, CO, O3. NH3, PM10, PM2.5, BTX	Residential & Commercial
10	Kalyan	Thane	---	---	---	1	SO2, NO2, CO, O3. NH3, PM10, PM2.5, BTX	Residential & Commercial
11	Ratnagiri	Kolhapur	2	SO2, NO2 and PM10, PM2.5	Industrial			
12	Solapur	Pune	2	SO2, NO2 and PM10, PM2.5	Commercial	1	SO2, NO2, CO, O3. NH3, PM10, PM2.5, BTX	Residential & Commercial
13	Barshi	Pune	3	SO2, NO2 and PM10, PM2.5	Commercial			
14	Pandharpur	Pune	1	SO2, NO2 and PM10, PM2.5	Comm-Resi			
15	Osmanabad	Aurangabad	3	SO2, NO2 and PM10, PM2.5	Industrial			
16	Udgir	Aurangabad	3	SO2, NO2 and PM10, PM2.5	Industrial			
17	Gondia	Nagpur	3	SO2, NO2 and PM10, PM2.5	Commercial			
18	Wardha	Nagpur	3	SO2, NO2 and PM10, PM2.5	Commercial			
19	Wani	Chandrapur	3	SO2, NO2 and PM10, PM2.5	Commercial			

20	Gadchiroli	Chandrapur	1	SO2, NO2 and PM10, PM2.5	Commercial			
21	Bhadravati	Chandrapur	1	SO2, NO2 and PM10, PM2.5	Commercial			
22	Parbhani	Aurangabad	3	SO2, NO2 and PM10, PM2.5	Commercial / Residential			
23	Kamptee	Nagpur	1	SO2, NO2 and PM10, PM2.5	Comm-Resi			
24	Wadi	Nagpur	1	SO2, NO2 and PM10, PM2.5	Comm-Resi			
25	Basmat	Aurangabad	1	SO2, NO2 and PM10, PM2.5	Commercial			
26	Parali	Aurangabad	1	SO2, NO2 and PM10, PM2.5	Comm-Resi			
27	Bhusawal	Nashik	3	SO2, NO2 and PM10, PM2.5	Commercial			
28	Nandurbar	Nashik	3	SO2, NO2 and PM10, PM2.5	Industrial			
29	Satara	Pune	3	SO2, NO2 and PM10, PM2.5	Residential			
30	Bhiwandi	Thane	1	SO2, NO2 and PM10, PM2.5	Comm-Resi			
31	Bhandara	Bhandara	1	SO2, NO2 and PM10, PM2.5	Comm-Resi			
32	Vasai-Virar	Thane	---	---	---	1	SO2, NO2, CO, O3, NH3, PM10, PM2.5, BTX	Residential
		TOTAL	45		TOTAL	23		

ANNEXURE-IV

ANNEXURE REFERRED TO IN REPLY TO (c) and (d) OF THE LOK SABHA UN-STARRED QUESTION NO. 3957 DUE FOR REPLY ON 28.03.2022 REGARDING 'AIR QUALITY MONITORING STATIONS' BY SHRI RAJAN VICHARE, HON'BLE MEMBER OF PARLIAMENT

DISTRICT WISE AIR QUALITY MONITORING STATIONS IN THE STATE OF MAHARASHTRA

Sl. No.	Name of City	District	No. of Stations (MANUAL)	Parameter monitored (MANUAL)	TYPE	No of CAAQMS stations (Continuous)	Parameter monitored (Continuous)	TYPE
1	Amravati	Amravati	3	SO ₂ , NO ₂ and PM ₁₀	Residential	---	---	---
2	Akola	Amravati	3	SO ₂ , NO ₂ and PM ₁₀	Residential	---	---	---
3	Navi Mumbai	Thane	4	SO ₂ , NO ₂ and PM ₁₀	Industrial	2	SO ₂ , NO ₂ , CO, O ₃ , NH ₃ , PM ₁₀ , PM _{2.5} , BTX	Residential & Commercial
4	Taloja	Raigad	1	SO ₂ , NO ₂ and PM ₁₀	Industrial	---	---	---
5	Panvel	Raigad	1	SO ₂ , NO ₂ and PM ₁₀	Rural	---	---	---
6	Kolhapur	Kolhapur	3	SO ₂ , NO ₂ and PM ₁₀	Residential	---	---	---
7	Tarapur	Thane	3	SO ₂ , NO ₂ and PM ₁₀	Industrial	---	---	---
8	Solapur	Pune	2	SO ₂ , NO ₂ and PM ₁₀	Residential	---	---	---
9	Nashik	Nashik	4	SO ₂ , NO ₂ and PM ₁₀	Industrial	1	SO ₂ , NO ₂ , CO, O ₃ , NH ₃ , PM ₁₀ , PM _{2.5} , BTX	Residential & Commercial
10	Ambernath	Thane	1	SO ₂ , NO ₂ and PM ₁₀	Residential	---	---	---

11	Dombivali	Thane	1	SO2, NO2 and PM10	Industrial	1	SO2, NO2, CO, O3, NH3, PM10, PM2.5, BTX	Residential & Commercial
12	Dombivali	Thane	1	SO2, NO2 and PM10	Industrial	---	---	---
13	Aurangabad	Aurangabad	4	SO2, NO2 and PM10	Residential	1	SO2, NO2, CO, O3, NH3, PM10, PM2.5, BTX	Residential & Commercial
14	Chandrapur	Chandrapur	6	SO2, NO2 and PM10	Residential	2	SO2, NO2, CO, O3, NH3, PM10, PM2.5, BTX	Residential & Commercial
15	Nagpur	Nagpur	4	SO2, NO2 and PM10	Residential	1	SO2, NO2, CO, O3, NH3, PM10, PM2.5, BTX	Residential & Commercial
16	Pune	Pune	3	SO2, NO2 and PM10	Comm-Resi	1	SO2, NO2, CO, O3, NH3, PM10, PM2.5, BTX	Residential & Commercial
17	Pune	Pune	1	SO2, NO2 and PM10, PM2.5	Comm-Resi	---	---	---
18	Thane	Thane	2	SO2, NO2 and PM10	Industrial	---	---	---
19	Thane	Thane	1	SO2, NO2 and PM10, PM2.5	Comm-Resi	---	---	---
20	Mumbai	Mumbai	1	SO2, NO2 and PM10	Residential	11	SO2, NO2, CO, O3, NH3, PM10, PM2.5, BTX	Residential & Commercial
21	Jalna	Aurangabad	2	SO2, NO2 and PM10	Commercial	---	---	---
22	Ulhasnagar	Thane	2	SO2, NO2 and PM10	Industrial	---	---	---
23	Badlapur	Thane	1	SO2, NO2 and PM10	Residential	---	---	---

24	Latur	Aurangabad	3	SO2, NO2 and PM10	Industrial	---	---	---
25	Mahad	Raigad	3	SO2, NO2 and PM10	Commercial	---	---	---
26	Roha	Raigad	2	SO2, NO2 and PM10	Comm-Resi	---	---	---
27	Sangli-Miraj	Kolhapur	3	SO2, NO2 and PM10	Residential	---	---	---
28	Jalgaon	Nashik	3	SO2, NO2 and PM10	Residential	---	---	---
29	Nanded	Aurangabad	3	SO2, NO2 and PM10	Residential	---	---	---
30	Lote	Ratnagiri	2	SO2, NO2 and PM10	Industrial	---	---	---
31	Kalyan	Thane	1	SO2, NO2 and PM10	Residential	1	SO2, NO2, CO, O3, NH3, PM10, PM2.5, BTX	Residential & Commercial
32	Bhiwandi	Thane	2	SO2, NO2 and PM10	Residential	---	---	---
33	Ratnagiri	Kolhapur	2	SO2, NO2 and PM10, PM2.5	Industrial	---	---	---
34	Solapur	Pune	2	SO2, NO2 and PM10, PM2.5	Commercial	1	SO2, NO2, CO, O3, NH3, PM10, PM2.5, BTX	Residential & Commercial
35	Barshi	Pune	3	SO2, NO2 and PM10, PM2.5	Commercial	---	---	---
36	Pandharpur	Pune	1	SO2, NO2 and PM10, PM2.5	Comm-Resi	---	---	---
37	Osmanabad	Aurangabad	3	SO2, NO2 and PM10, PM2.5	Industrial	---	---	---

38	Udgir	Aurangabad	3	SO2, NO2 and PM10, PM2.5	Industrial	---	---	---
39	Gondia	Nagpur	3	SO2, NO2 and PM10, PM2.5	Commercial	---	---	---
40	Wardha	Nagpur	3	SO2, NO2 and PM10, PM2.5	Commercial	---	---	---
41	Wani	Chandrapur	3	SO2, NO2 and PM10, PM2.5	Commercial	---	---	---
42	Gadchiroli	Chandrapur	1	SO2, NO2 and PM10, PM2.5	Commercial	---	---	---
43	Bhadravati	Chandrapur	1	SO2, NO2 and PM10, PM2.5	Commercial	---	---	---
44	Parbhani	Aurangabad	3	SO2, NO2 and PM10, PM2.5	Commercial / Residential	---	---	---
45	Kamptee	Nagpur	1	SO2, NO2 and PM10, PM2.5	Comm-Resi	---	---	---
46	Wadi	Nagpur	1	SO2, NO2 and PM10, PM2.5	Comm-Resi	---	---	---
47	Basmat	Aurangabad	1	SO2, NO2 and PM10, PM2.5	Commercial	---	---	---
48	Parali	Aurangabad	1	SO2, NO2 and PM10, PM2.5	Comm-Resi	---	---	---
49	Bhusawal	Nashik	3	SO2, NO2 and PM10, PM2.5	Commercial	---	---	---
50	Nandurbar	Nashik	3	SO2, NO2 and PM10, PM2.5	Industrial	---	---	---
51	Satara	Pune	3	SO2, NO2 and PM10, PM2.5	Residential	---	---	---
52	Bhiwandi	Thane	1	SO2, NO2 and PM10, PM2.5	Comm-Resi	---	---	---

53	SRO-Bhandara	Bhandara	1	SO2, NO2 and PM10, PM2.5	Comm-Resi	---	---	---
54	Vasai-Virar	Thane	---	---	---	1	SO2, NO2, CO, O3, NH3, PM10, PM2.5, BTX	Residential
	Total		119			23		

ANNEXURE-V**ANNEXURE REFERRED TO IN REPLY TO (c) and (d) OF THE LOK SABHA UN-STARRED QUESTION NO. 3957 DUE FOR REPLY ON 28.03.2022 REGARDING 'AIR QUALITY MONITORING STATIONS' BY SHRI RAJAN VICHARE, HON'BLE MEMBER OF PARLIAMENT**

Sl. No.	Name of City	District	No.of stations (MANUAL)	Parameter monitored (MANUAL)	TYPE
1	Ratnagiri	Kolhapur	2	SO2, NO2 and PM10, PM2.5	Industrial
2	Solapur	Pune	2	SO2, NO2 and PM10, PM2.5	Commercial
3	Barshi	Pune	3	SO2, NO2 and PM10, PM2.5	Commercial
4	Pandharpur	Pune	1	SO2, NO2 and PM10, PM2.5	Comm-Resi
5	Osmanabad	Aurangabad	3	SO2, NO2 and PM10, PM2.5	Industrial
6	Udgir	Aurangabad	3	SO2, NO2 and PM10, PM2.5	Industrial
7	Gondia	Nagpur	3	SO2, NO2 and PM10, PM2.5	Commercial
8	Wardha	Nagpur	3	SO2, NO2 and PM10, PM2.5	Commercial
9	Gadchiroli	Chandrapur	1	SO2, NO2 and PM10, PM2.5	Commercial
10	Bhadravati	Chandrapur	1	SO2, NO2 and PM10, PM2.5	Commercial
11	Parbhani	Aurangabad	3	SO2, NO2 and PM10, PM2.5	Commercial / Residential

12	Kamptee	Nagpur	1	SO2, NO2 and PM10, PM2.5	Comm-Resi
13	Wadi	Nagpur	1	SO2, NO2 and PM10, PM2.5	Comm-Resi
14	Basmat	Aurangabad	1	SO2, NO2 and PM10, PM2.5	Commercial
15	Parali	Aurangabad	1	SO2, NO2 and PM10, PM2.5	Comm-Resi
16	Bhusawal	Nashik	3	SO2, NO2 and PM10, PM2.5	Commercial
17	Nandurbar	Nashik	3	SO2, NO2 and PM10, PM2.5	Industrial
18	Satara	Pune	3	SO2, NO2 and PM10, PM2.5	Residential
19	Bhiwandi	Thane	1	SO2, NO2 and PM10, PM2.5	Comm-Resi
20	SRO- Bhandara	Bhandara	1	SO2, NO2 and PM10, PM2.5	Comm-Resi
		TOTAL	40		